

Translation

PATENT COOPERATION TREATY

PCT/EP2003/014936



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2003P00245WO	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/014936	International filing date (day/month/year) 29 décembre 2003 (29.12.2003)	Priority date (day/month/year) 14 janvier 2003 (14.01.2003)
International Patent Classification (IPC) or national classification and IPC F23Q 7/00		
Applicant SIEMENS VDO AUTOMOTIVE		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 06 août 2004 (06.08.2004)	Date of completion of this report 24 November 2004 (24.11.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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## I. Basis of the report

1. This report has been drawn on the basis of (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

- ☐ the international application as originally filed.
- ☒ the description, pages 1-7, as originally filed,  
pages \_\_\_\_\_, filed with the demand,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the claims, Nos. 1-10, as originally filed,  
Nos. \_\_\_\_\_, as amended under Article 19,  
Nos. \_\_\_\_\_, filed with the demand,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the drawings, sheets/fig 1/2-2/2, as originally filed,  
sheets/fig \_\_\_\_\_, filed with the demand,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims	1-10	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

### 2. Citations and explanations

The following documents cited in the search report are mentioned in present report:

D1: EP 1 096 141 A

D2: JP 2002 339793 A

D3: JP 07 139736 A

- Document D1 (figures 1-3) can be considered to be the closest prior art. D1 describes an internal combustion engine spark plug as per the preamble of claim 1. The pressure in the combustion chamber is measured by means of a piezoelectric element that detects the movement of an internal portion (204) of the plug relative to an external portion (201) thereof. There is no measurement or detection of any movement relative to the engine cylinder head (1). It follows that the subject matter of claim 1 is novel (PCT Article 33(2)).

The spark plugs shown in documents D2 and D3 also measure the pressure in the combustion chamber in a self-contained manner, i.e. without quantifying the movement of one portion of the spark plug relative to the engine cylinder head. It follows that a

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person skilled in the art would not be able to arrive at the subject matter of claim 1 by combining these documents. Therefore, the subject matter of claim 1 involves an inventive step as defined in PCT Article 33(3). Industrial applicability is obvious.

2. Neither document D1 nor the prior art therein has been cited in the description (PCT Rule 5.1(a)(ii)).